

# Notice of Allowability

Application No.

10/076,510

Examiner

Blanche Wong

Applicant(s)

YI ET AL.

Art Unit

2619

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response to Office Action, dated November 28, 2007.
2. ☒ The allowed claim(s) is/are 32-56 (renumbered 1-25 respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All b) ☐ Some\* c) ☐ None of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_.
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date Feb08.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Vernon R. Yancy on February 14, 2008.

The application has been amended as follows:

1-31. (Canceled)

32. (Currently Amended) A traffic volume measurement method for controlling at least one radio bearer, comprising:

receiving, from an upper layer, measurement information including lower and upper values of permissible traffic volume for a transport channel;

receiving buffer occupancy from a radio link control (RLC) layer for each logical channel related to the transport channel, the buffer occupancy for each logical channel related to the transport channel including an amount of data protocol data units (PDUs) stored in the buffer and an amount of control PDUs being generated;

measuring traffic volume for the transport channel by summing the buffer occupancy for each logical channel related to the transport channel;

comparing the measured traffic volume to the lower or upper value; and

reporting buffer occupancy information to the upper layer, if the measured traffic volume is larger than the upper value or lower than the lower value.

33. (Previously Presented) The method of claim 32, wherein the buffer occupancy information reported to the upper layer includes buffer occupancy information for each of the at least one radio bearer mapped to the transport channel.

34. (Previously Presented) The method of claim 32, wherein each operation of the method is performed by a media access control (MAC) entity.

35. (Previously Presented) The method of claim 32, wherein the buffer occupancy information includes at least one of a buffer occupancy, an average of buffer occupancy, and a variance of buffer occupancy, for each of the at least one radio bearer.

36. (Previously Presented) The method of claim 32, wherein the measurement of the traffic volume is performed every transmission time interval (TTI).

37. (Previously Presented) The method of claim 35, wherein the buffer occupancy for each logical channel related to the transport channel represents an occupancy of an RLC buffer of an RLC entity.

38. (Previously Presented) The method of claim 36, wherein the measurement information further includes a time interval for calculating at least one of an average and a variance of the buffer occupancy for each logical channel related to the transport channel.

39. (Previously Presented) The method of claim 32, wherein the upper layer is a radio resource control (RRC) layer.

40. (Currently Amended) A traffic volume measurement method for controlling at least one radio bearer, comprising:

receiving measurement information including a reporting period from an upper layer;

receiving buffer occupancy for each logical channel related to a transport channel from a radio link control (RLC) layer, the buffer occupancy for each logical channel related to the transport channel including an amount of data protocol data units (PDUs) stored in the buffer and an amount of control PDUs being generated;

reporting buffer occupancy information to the upper layer when reporting period elapses.

41. (Previously Presented) The method of claim 40, wherein each operation of the method is performed by a media access control (MAC) entity.

42. (Previously Presented) The method of claim 40, wherein the buffer occupancy information reported to the upper layer includes buffer occupancy information for each of the at least one radio bearer mapped to the transport channel.

43. (Previously Presented) The method of claim 40, wherein the buffer occupancy information includes at least one of a buffer occupancy, an average of buffer occupancy, and a variance of buffer occupancy, for each of the at least one radio bearer.

44. (Previously Presented) The method of claim 40, wherein the buffer occupancy for each logical channel related to the transport channel represent an occupancy of an RLC buffer of an RLC entity.

45. (Previously Presented) The method of claim 40, wherein the upper layer is a radio resource control (RRC) layer.

46. (Previously Presented) The method of claim 40, wherein the measurement information further includes a time interval for calculating at least one of an average and a variance of the buffer occupancy for each logical channel related to the transport channel.

47. (Currently amended) A method of controlling at least one radio bearer, comprising:

transferring measurement information to a media access control (MAC) entity, the measurement information including information on whether to perform an event-triggered measurement mode or a periodic measurement mode;

receiving buffer occupancy information from the MAC entity according to the measurement mode, the buffer occupancy information being obtained by using buffer occupancy of each logical channel mapped to a transport channel, wherein the buffer occupancy includes an amount of data protocol data units (PDUs) stored in the buffer and an amount of control PDUs being generated; and

performing reconfiguration of the at least one radio bearer based on the buffer occupancy information.

48. (Previously Presented) The method of claim 47, wherein the buffer occupancy information includes buffer occupancy information for each of the at least one radio bearer mapped to the transport channel.

49. (Previously Presented) The method of claim 47, wherein, when the measurement mode is the event-triggered measurement mode, the measurement information further includes an upper limit and a lower limit.

50. (Previously Presented) The method of claim 49, further comprising:  
measuring traffic volume by summing buffer occupancy of each logical channel mapped to a transport channel; and  
comparing the measured traffic volume to the upper limit or the lower limit.

51. (Previously Presented) The method of claim 50, wherein the measuring and comparing operations are performed in the MAC entity.

52. (Previously Presented) The method of claim 47, wherein, when the measurement mode is the periodic measurement mode, the measurement information further includes a reporting period.

53. (Previously Presented) The method of claim 48, further comprising checking whether a reporting period is elapsed in the MAC entity.

54. (Previously Presented) The method of claim 47, wherein each operation of the method is performed in a radio resource control (RRC) layer.

55. (Previously Presented) The method of claim 47, wherein the buffer occupancy information includes at least one of a buffer occupancy, an average of buffer occupancy, and a variance of buffer occupancy, for each radio bearer.

56. (Previously Presented) The method of claim 47, wherein the buffer occupancy of each logical channel mapped to the transport channel is transmitted from a radio link control (RLC) layer to the MAC entity.

2. The following is an examiner's statement of reasons for allowance:

With regard to claims 32,40,47, the prior art of record fails to anticipate or make obvious an RRC layer that can independently measure/calculate the traffic volume by summing the "buffer occupancy from a RLC layer for each logical channel related to the

transport channel, the buffer occupancy for each logical channel related to the transport channel including an amount of data PDUs stored in the buffer and an amount of control PDUs being generated." Prior art discloses it is more efficient for MAC layer to determine traffic volume of the transport channels and then reports it to RRC layer.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*BW*

BW  
February 14, 2008

*Wing Lee Chan*  
2/19/08  
WING CHAN  
SUPERVISORY PATENT EXAMINER